

PRAIRIE BALANCE



Unit Three

Prairie Balance

UNIT THREE

The following is background information for creating lesson plans. Activities start on page 43.

The Prairie and Grasslands of North America

Seventy percent of original American grassland areas were formed on deposits created by glacial ice, lakes, streams and wind. These deposits laid down soil bases heavy with various minerals and loess that were ideally suited for nurturing the beginnings of grassland.

The rain shadow effect has a great influence on the Great Plains. This effect is due to the rising of the mountain systems in the western United States (Sierra Nevada, Great Basin Ranges, and Rocky Mountains). Water-laden clouds from the Pacific Ocean are forced to great heights by the mountains. There the clouds cool and condense dropping their load of precipitation as snow or water. As they come down in elevation on the east slope of the mountains, the clouds have very little water to drop. Passing over all three ranges of mountains, this rain shadow effect happens each time, and by the time the clouds pass the Continental Divide, they are wrung dry. The areas near the east side of the mountains received the least amount of rainfall. As the clouds move eastward, they begin to combine with the masses of moist air drifting north from the Gulf of Mexico. The resulting combination creates a renewed mass of moisture laden clouds in the eastern area of the Great Plains like a huge wet sponge waiting to be squeezed dry. This creates the humidity on the eastern plains.



Because of the effect of high humidity, intense heat, and decreased rainfall, the balance of survival tips to plants with a high tolerance for heat and drought. With the decrease in the amount of rainfall, the vegetation in this area of the Great Plains began to change. At first, the area had hardwood trees, and as the rainfall decreased, softwood trees replaced

hardwoods. Eventually, even the softwoods had trouble surviving and grasses replaced the trees. The further away an area was from the mountain systems, the more precipitation the area received. This effect created different types of grasses or prairie systems based on the amount of rainfall received. These different areas are called the tallgrass, mixed or mid grass, and short grass prairies. It is here in the Plains that the fight for habitat wages between the prairie and trees. The pendulum swings from a cool and moist *climate* which favors trees, to a hot and dry climate which favors grasses. At one point the trees invade into the grassland when it is cooler and moist. At the other point, the grasses invade into the forest when it is hot and dry. This has been occurring for 25 million years. This might be why there are enclaves of trees in the prairie and prairie/meadows in the forests.

Location	Rainfall	Grass Height	Type
Eastern Colorado	16"/year	6" to 1.5'	Short grass
Central KS/NE	24"/year	2' to 4'	Mixed or Mid grass
Eastern Missouri	30"	over 6'	Tallgrass

The Tallgrass Prairie



By looking at the map of the different prairie areas on the previous page, you can see that the tallgrass prairie is in the eastern area of the Great Plains. The grasses here can reach eight feet by the late summer and early fall. Because of the type of plants growing here, it is especially difficult for tree seedlings to become established in native prairies that have existed thousands of years.

The dense prairie *sod* makes it difficult for any non-native plant to become established. Native prairie plants use all the water in the top six inches of the soil which makes it difficult for the deep root systems of trees to gather water. Most of the rain that comes in the late summer season never reaches the ground. The precipitation clings as droplets and water film on the leaves and stems of prairie plants. Even in heavy rains only one third of the rain gets to the ground. If you walk through the prairie after a rainstorm you would get drenching wet from the water left on the plants.

The grasses on the tallgrass prairie are so tall that only one third or less of the sunlight reaches the ground. Tree seedlings get only one percent of the sunlight as most is absorbed by the grasses and other *forbs* on the prairie.

On the prairie, every cubic inch of soil under the surface is compacted by *roots*. For example, in half a square meter of big bluestem sod (the major grass on tallgrass prairies), there are nearly 13 miles of fine root hairs and larger roots.

Homestead's Restored Tallgrass Prairie

Most of the native prairie sod in the United States was plowed up for farm land by early farmers. There still exist some scattered remnants of native prairie, but they are few. The tallgrass prairie at Homestead National Monument of America is a restored tallgrass prairie. When Congress established the site in 1936, the uplands of the monument were eroded due to continual plowing and the drought of the 1930s. The National Park Service decided to restore the tallgrass prairie to give visitors an idea of what homesteaders found in the "Great American Desert." The restoration continues and the National Park Service manages this area as a prairie.

GLOSSARY

Adaptation - the process of making adjustments to the environment

Biodiversity - a variety of different types of life found in an ecosystem

Climate - the kind of weather a place has over a period of years, based on conditions of heat and cold, moisture and dryness, sun and shade, wind and calm

Ecosystem - a system of ecological relationships upon which the life of any living organism is based which includes such factors as food supply, weather, and natural enemies

Forbs - a plant other than a grass or tree

Grassland - a region covered with mostly grasses and few trees, also called prairie

Loess - a type of soil deposit found in grasslands as a result of prior glacier action

Roots - underground part of a plant's body

Sod - ground covered with grass, a piece or layer which contains both grass, roots, and soil

Animals on the Prairie

The original animals of the tallgrass prairie were much more varied than those that can be seen today. The animals and the native plants created an interconnected *ecosystem*. Because of the loss of many native prairie *habitats* and over hunting in the 19th century, the *biodiversity* of animals viewed by the first settlers no longer exists.

It can still be debated whether some of the species we consider to be native to grasslands are recent *adapters* to the prairie or long time residents. In the forested areas, animals tend to travel alone except in the mating season. Herds of animals are really a phenomenon of the expansive prairies of the past as is the quick maneuverability and speed of some prairie dwelling animals. On the prairie, we find not only mammals, but a variety of birds, reptiles, and others species which adapted to the life on the Great Plains.

Of all the species, the birds tend to be the most diverse and numerous. Here, in the Great Plains, is where the meadowlark, dickcissel, red tailed hawk, prairie chicken, bobolink, sandhill crane, upland plover, sparrow hawk, swallow-tailed kit, bobwhite quail, great curlew, mourning dove, and many more make their homes. The mammals and reptiles of the prairie are the animals that we commonly associate with the western United States; the bison, coyote, antelope, badger, elk, prairie dog, various skunks, otters, foxes, snakes, lizards, among many others. Some have survived and adapted to the changes on the grassland, but many have decreased in number, dependent on the prairie that started to vanish with the tilling of the land.



Unit 3, Activity 1

The Prairie Ecosystem

Theme:

Throughout the world there are hundreds of species of plants and animals that depend upon the vast grasslands in which they live. The Great Plains of the United States is one of these grasslands although much of the original prairie is gone now. When the ecosystem of a grassland is disturbed, the prairie has to struggle to survive.

Objectives:

1. Students will be able to understand that a prairie is a unique and special ecosystem.
2. Students will be able to name two things that help the prairie to function.

Materials Needed: Maps: the United States and the World, Material Sheet: Prairie Cards for students, Land, Water, Air Cards for the chairs, one chair for each student (if odd number of students add an extra chair), Tape of songs, tape recorder, Material Sheet: Disasters on the Prairie.

Subject: science, geography

Skills: comprehension, transposition

Methods: Students will learn about the prairie ecosystem by participating in a game similar to musical chairs.

1. Read the following narrative about the prairie.

Narrative:

"When I first came out to the plains, I was very surprised. Back east they called it the "Great American Desert" - a land where nothing grew or lived except an endless sea of grass. But when I got here the grasses were just starting to sprout as it was late spring and I could see plants of all types, not just grasses. Several plants were in bloom with pretty flowers that I knew my wife would love. When she arrived with the children, the prairie violets, woodsorrels, and prairie ragworts nearly sold her on the Plains. If it weren't for the lack of trees she would have wanted to stay. And the sky, it was huge and went on forever and ever. Just prairie and sky were all I could see. I knew this place was for me, this wild and empty land of sky and prairie. By early fall, the grasses were at their full height. The horses and stock loved to graze the big and little bluestem, the Indian grass, and sideoats. In the wind, you could watch the grass wave gently across like the ocean lapping at the shore - an endless motion of grass and wind. Lately there is getting to be less and less of the tallgrasses as more homesteaders plow the land for their crops.

2. Ask students to define a prairie. Relate it to the narrative's experience.
3. Tell students about the different types of prairies or grasslands throughout the world. Show a map of the World and point out the following grasslands: African Savannah, Asian Steppes, Australian Outback, and Great Plains of North America. Explain that the Great Plains of North America can be defined into three different types called Tall, Mid/Mix, Short -grass prairies and show where they are located. Use a map of the United States.
4. Explain to students the word "ecosystem" and that we are going to experience the interconnectedness of the ecosystem of the prairie through a game of musical chairs..
5. Line up the chairs into 2 rows back to back. Put the AIR, WATER, LAND CARDS on the front of each chair. Give each student a PRAIRIE CARD. This is the plant or animal they will be during the game.

6. Explain that all the students will have to stand and walk around while a song plays on the tape recorder. When the music stops, the students need to find a chair that has the same word of LAND, AIR, or WATER that is on their prairie card. Each PRAIRIE CARD tells the student what they need to survive (LAND, AIR or WATER). This is the first round.
7. Now disasters are going to happen on the prairie that affects the ecosystem. Have students get up and walk around the chairs while the music is playing. You need to read the first disaster from the Material Sheet: Disasters on the Prairie. After reading the disaster, remove the appropriate LAND, WATER or AIR chair. At the end of each disaster description, there is the word LAND, AIR, or WATER. This word tells what chair needs to be removed. Start the music. Stop the music and have the students locate the chair that has the same word as on their prairie cards. One student will be left standing. Explain to students that without (LAND, WATER, or AIR) this prairie species cannot live and so it dies. Continue with each disaster until there is no chair left. You may remove two or more chairs during each disaster if you are short of time. Explain to students that there are no winners when the prairie ecosystem is not in balance.

Variation of the game: Have two rows of chairs facing each other. One row of chairs is the LAND, WATER, and AIR and the other row is the PRAIRIE species. The Prairie species must sit across from the LAND, WATER, or AIR that is on their card. Have some students represent land, water, and air, and the other students represent the prairie species. When the disaster happens, two students will be removed from the game. When the disaster calls for a LAND, WATER, or AIR to disappear, remove a chair from that side and pull a student that has that card from the group. Have students with PRAIRIE Cards sit down across from the LAND, WATER, and AIR students. One student will not have a LAND, WATER, or AIR chair to sit across from and that student that is missing his/her LAND, WATER, or AIR chair must sit out the rest of the game.

Explain to students that the one student left standing cannot survive without the corresponding LAND, WATER, or AIR card, and the student is removed from the game. Continue until no one is left.

An Exploring Experience: Divide the class into the following ecosystems: wetlands, old growth forest, rain forest, deserts. Have students send for information on their ecosystem to an organization that deals with what is happening to that ecosystem. Report back to the class their findings.

Material Sheet
Land, Air and Water Cards

AIR

LAND

WATER

Material Sheet
Prairie Cards

<p>I am a MEADOW SPITTLEBUG. To protect myself from predators, I cover myself with bubbles made from spit</p> <p>LAND</p>	<p>I am a GREAT PLAINS TOAD. I come out of my burrow at night to catch insects.</p> <p>LAND</p>
<p>I am a LADY BUG. I eat aphids that attack your roses.</p> <p>LAND</p>	<p>I am a HOGNOSE SNAKE. I play dead like an opossum when threatened.</p> <p>LAND</p>
<p>I am a MOLE. I burrow under ground. I have no visible eyes.</p> <p>LAND</p>	<p>I am a striped skunk. I squirt my enemies with a smell spray.</p> <p>LAND</p>
<p>I am a BROWN DADDY-LONG-LEGS. I am usually harmless, but if you smash me I will stink.</p> <p>LAND</p>	<p>I am a BIG BLUESTEM. Some people call me the king of the prairie.</p> <p>LAND</p>
<p>I am a PRAIRIE ROSE. I am pretty and I smell sweet.</p> <p>LAND</p>	<p>I am a PURPLE-CONE FLOWER. My roots can be used to treat a toothache.</p> <p>LAND</p>
<p>I am a MOSQUITO. I suck the blood of warm-blooded animals and humans.</p> <p>AIR</p>	<p>I am a MEADOWLARK. I sing a cheerful song.</p> <p>AIR</p>
<p>I am a MUD DAUBER. I lay my eggs in cells made of mud.</p> <p>AIR</p>	<p>I am a LIGHTNING BUG. I flash my light on warm summer nights.</p> <p>AIR</p>

<p>I am a BALD EAGLE. I live near water-ways and feed on fish.</p> <p>AIR</p>	<p>I am a Bat. I eat a bunch of bugs every night. I use sonar to fly.</p> <p>AIR</p>
<p>I am a MONARCH BUTTERFLY. I fly south in the winter, just like the birds.</p> <p>AIR</p>	<p>I am a SHORT-EARED OWL. I have a habit of hovering over the land.</p> <p>AIR</p>
<p>I am a RED TAILED HAWK. I hunt from the top of telephone poles.</p> <p>AIR</p>	<p>I am a PRAIRIE CHICKEN. I do a dance to attract a mate.</p> <p>AIR</p>
<p>I am a CHANNEL CATFISH. My barbs look like a cat's whiskers.</p> <p>WATER</p>	<p>I am a BULL FROG. I croak loudly in the spring.</p> <p>WATER</p>
<p>I am a MUD PUPPY. I like cool damp places.</p> <p>WATER</p>	<p>I am a WATER SMARTWEED plant. I float on top of the water.</p> <p>WATER</p>
<p>I am a BEAVER. I change my habitat by building dams to make ponds.</p> <p>WATER</p>	<p>I am a FLATHEAD MINNOW. I am just a little fish. Big fish try to catch me and eat me.</p> <p>WATER</p>
<p>I am a PAINTED TURTLE. I sun myself on a log.</p> <p>WATER</p>	<p>I am a WATER SNAKE. I can swim as fast as a fish.</p> <p>WATER</p>
<p>I am a STRIPED CHORUS FROG. My voice is like the sound of a fingernail running over the teeth of a comb.</p> <p>WATER</p>	<p>I am a PLAINS KILLFISH. One of my favorite foods is mosquitoes.</p> <p>WATER</p>

Material Sheet

Disasters on the Prairie

Read each disaster out loud from the list below. The word LAND, WATER, or AIR follows each disaster to indicate what chair should be removed. Remove the appropriate LAND, WATER, or AIR chair. If short of time remove several chairs.

1. Every year acres of tallgrass prairie are plowed to be used as cropland. This destroys much of your habitat area. **LAND**
2. An oil tanker runs off the road and spill 1,000 gallons of oil into the creek where you live. **WATER**
3. Pollution from factories hundreds of miles away can drift into National Park areas like Homestead National Monument of America. **AIR**
4. Joe Careless throws a McDonald's bag out of his car window. **LAND**
5. Joe Careless throws a beer can into your creek. **WATER**
6. A rancher put too many cattle in your pasture and they graze off all the plant cover. **LAND**
7. Pollution from automobiles and power plants traps heat inside out atmosphere, raising the earth's temperature. **AIR**
8. Every year tons of fertilizer are washed out of crop fields and into your creek. **WATER**
9. On the west side of Lincoln, Nebraska your 60 acre pasture is paved and turned into a shopping mall. **LAND**
10. A volcano explodes 1000 miles from your home. The ash in the air blocks the sunlight which the plants need to grow. **LAND**
11. Joe Careless disconnects his car's pollution control system. **AIR**
12. Your marsh is drained so the land can be used to grow crops. **WATER**
13. A farmer plows his field to the edge of the creek. This causes increased erosion along the creek and the stream bank collapses. **WATER AND LAND**
14. The highway near your home is widened and removes several acres of your prairie. **LAND**
15. Jolene Careless is smoking a cigarette on your prairie and throws her cigarette away. The cigarette starts a fire that destroys 1000 acres of prairie before it can be controlled. **LAND**
16. Untreated sewage is dumped into your river reducing the amount of life supporting oxygen in the water. **WATER**

17. The trees along your creek are cut down so the wood from the trees can be used to make paper. **LAND**
18. Jolene Careless will do anything to be in style. She uses four cans of hair spray each day just to make her bangs stand up. **AIR**
19. A coal company tears up your prairie looking for coal to put in a strip mine in Western Nebraska. **LAND**
20. Chemicals in some refrigerators, air conditioners and Styrofoam destroy the Earth's ozone layer. This layer in the atmosphere protects the Earth from harmful radiation. **AIR**
21. A long drought occurs drying up surface water. **WATER**
22. Just outside of Beatrice, Nebraska 50 barrels of toxic waste are illegally dumped in your meadow. **LAND**
23. A nuclear power plant leaks radioactive material into your air. **AIR**
24. A dam is built on the Big Blue River drying up much of the downstream flow. **WATER**
25. A dam is built on the Big Blue River. The water backs up behind the dam and floods your valley. **LAND**
26. Tropical rainforests, which produce much of the world's oxygen, are being cut down at a very fast rate. **AIR**
27. Pesticides from a crop duster plane drift on the wind. **AIR**

Unit 3, Activity 2

Root Systems of Prairie Plants

NOTE THE PLANTS FOR THIS ACTIVITY NEED TO GROW OVER A FIVE-WEEK PERIOD!

Theme:

Prairie plants have root systems that are tough and intertwined. This root system helps in creating sod that holds together.

Objectives:

1. Students will be able to understand the root structure of several native prairie grasses and plants.
2. Students will be able to explain how the roots hold the soil together creating sod.

Materials Needed: glass aquarium or glass bowl, potting soil, grass or native plant seeds, water, and a source of light.

Subject: science

Skills: observation, transposition

Methods: The students will conduct an experiment with native prairie seeds to observe the sod of a prairie. This experience will show students how roots grow and deepen. Student will be able to observe by watching the roots grow through a glass aquarium or glass bowl.

1. Ask students why they feel roots are important to plants and soil. Explain to students that the function of roots is to get moisture and nutrients from the soil to “feed” the plant. Roots are an important part of the plant's survival. On the prairie, roots of different plants grow to different depths in order to “share” the nutrients and moisture.
2. Get two bags of potting soil or another type of soil and put 8-10 inches in an aquarium or glass container.
3. Plant various grass and plant (also called forbs) seeds in the direct sunlight no more than 1 inch from the side of the glass. Some seeds may be planted in the middle of the container, but be sure some seeds are near the side in order to watch the roots grow.
4. Assign students to water these plants once or twice a week and to monitor their growth for the class.
5. At the end of five weeks, these plants should have grown sufficiently to have a root structure that will be observable.
6. Show the experimental growth plot. Give each student a chance to observe the root and plant growth. Compare the grass growth to plant/forb growth. Have them imagine that this is a prairie. Can they see how dense the root systems of a prairie would be on an actual prairie and how deep the roots may grow? The students should be able to explain the importance of roots in native grasses and plants.
7. Provide students the opportunity to experience a prairie (a field trip to Homestead).

An Exploring Experience: Have students split into groups. Have each group draw a picture of the prairie ecosystem (plants, grasses, forbs) including the roots.

Unit 3, Activity 3

Searching for Prairie

Theme:

The prairie has a variety of plants besides grasses. This variety is called biodiversity.

Objectives:

1. Students will be able to identify 3 types of prairie grasses and 2 forbs.
2. On-site at Homestead National Monument of America, students will be able to find three different plants and properly identify them.

Materials Needed: sheet of paper, pencils, poster paper, tape, markers, Activity Sheet: Prairie Appreciation Fact Sheet, pictures of some plants of the prairie, camera and film (optional).

Subject: science, art

Skills: identify, observing, drawing, locating

Methods: Students will learn about different aspects of prairie vegetation and then have the opportunity to practice their identification skills by locating vegetation at Homestead National Monument of America.

1. Using pictures or herbarium specimens on-site at Homestead National Monument of America, show the students some grasses and forbs of the prairie. Explain the differences between a grass and a forb (wildflower or non-grass plant). Many museums and plant collection agencies preserve specimens for identification purposes. This type of specimen is called a herbarium specimen.

Note: Explain to students that they **can not** pick or remove any plants from the monument as it is a protected area. Explain that if we let everyone who came to visit the monument pick a grass or a forb, then eventually there would be none left. Ask students if they can think of other reasons why not to pick the plants on the prairie.

2. Divide the students into two groups. Each group will be given one "Fact Sheet." Instruct students that they will be required to locate each of the grasses/plants listed on their sheet on the restored tallgrass prairie. Have one student from each group record the type of plant found, the location, and a brief description.
3. Have students draw one plant that they found on the prairie and label it. Drawing a plant helps students to notice the type of stem, shape and location of leaves, and the seed head/flower of a plant. If you chose to use the camera, have students photograph the plant.
4. When back in the classroom, have students display their drawings. If you took photos, have students label the photos and display them.
5. Ask the recorder of each group to report what their group discovered and discuss where they found the plant they chose to draw or photograph and why they found it growing in that location.

Adapt to classroom use: Take several examples of the forbs and grasses either as pictures or sketches, and place them throughout the room for students to locate.

An Exploring Experience: Have students create a bulletin board on prairie plants for display for the entire school or at a local library for the community.

Prairie Appreciation Fact Sheet

Activity Sheet



Switchgrass: A common grass in low areas, it has an open seed head and may reach 10 feet in height. It is often cut for hay. Clumps of switchgrass were carefully avoided when American Indians cut up their meat. If the meat was laid on it, sharp glumes from the seeds would stick to it and then get caught in their throats when eaten.

Indian Grass: Identified by its golden-brown, plume-like seed masses, it grows up to 6 feet tall in varied soils. It was named for the American Indian. When in bloom the bright yellow stamens give it a feathery appearance. It is very nutritious and is excellent hay for winter feeding. It is the state grass of Oklahoma.



Little Bluestem: Smaller than its relative, Big Bluestem, it is also called Bunchgrass and has a striking reddish-tan fall color. It is the state grass of Nebraska.

Prairie Appreciation Fact Sheet

Activity Sheet



Sideoats Grama: Growing up to 3 feet high, this grass receives its name from its seeds which tend to hang down on one side of the stem. It turns a beautiful reddish-white after the first frost. It is the state grass of Texas.

Big Bluestem: (King of the Prairie) The most dominant of the tall grasses, it grows up to 12 feet high; it is also called “turkey foot” because of its three branched seed head. It is often called the “ice cream” of grasses because cattle like it so well. Homesteaders found corn grew best where this grass had grown. The blueish color of its stems give it the name.



Prairie Dropseed is a beautiful ‘clump’ grass found in high-quality prairies throughout the region. It is readily identified by its narrow long leaves, rarely wider than 1/8 inch, which spring from the soil and fall to the ground like a smooth waterfall. Dropseed leaves grow densely around a circular base. They vary in color from green to steely blue-gray, and grow up to three feet long.

Prairie Appreciation Fact Sheet

Activity Sheet

Evening Primrose:

This plant is a food staple of Goldfinches. The leaves can be eaten as cooked greens. The boiled roots taste like parsnips. Color: yellow



Rigid Goldenrod: Goldenrod species have a rubbery sap from which Thomas Edison had hoped to make a rubber substitute. These plants are incorrectly blamed for causing hay fever and allergies, which are really the reaction to the pollen of Ragweed. Color: yellow



Heath Aster: The inflorescence (flower head) looks like tiny stars. The word "aster" is derived from a Greek word meaning star. Color: white



Rough Gayfeather: It grows well in dry, sandy areas. Its corm root system stores water and nutrients. Color: pink



Round Head

Lespedeza: This plant is a member of the legume (bean or pea) family which enriches the soils nitrogen level. The seed heads are used in dried bouquet arrangements Color: green/brown

Prairie Appreciation Fact Sheet

Activity Sheet



Late Goldenrod: The state flower of Nebraska, this member of the Sunflower family has a plume-shaped flower head.
Color: yellow



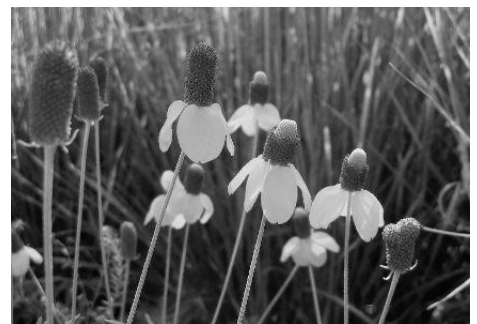
Blackeyed Susan: Its leaves were dried and brewed as a kidney remedy by early Americans. Recent research indicates that it may have antibiotic properties.
Color: yellow



Daisy Fleabane: The term “bane” refers to death. This plant’s name comes from the belief that if it were dried and stuffed in mattresses it would kill or repel fleas. Color: white



Showy Partridge Pea: Small bean or pea-like pods of this plant will “explode” or forcibly release their tiny brown seeds when ripe. Color: yellow



Upright Prairie Coneflower: The Oglala Sioux Indians brewed a tea-like beverage from this plant. Its name refers to the cone, or column of tiny flowers in the center of the flower head.
Color: yellow

Unit 3, Activity 4

Skins and Skulls

Theme: Many animals rely on the tallgrass prairie ecosystem to survive.

Objectives:

1. Students will be able to define adaptations in animals.
2. Students will generalize that all animals are adapted to survive.

Materials needed: Animal skins and skulls, pictures of animals.

Subject: science, biology

Skills: analysis, description, generalization, observation, application

Methods: On-site at Homestead National Monument of America students will explore the adaptations of animals on the tallgrass prairie by examining the hides and skulls of various animals. This activity is conducted at the Visitor Center at Homestead National Monument of America.

A member of the monument staff will be conducting the following program:

1. Students will first be asked to identify the hides of various animals found on the tallgrass prairie. The instructor will help the students identify the animals as carnivore (meat eating), herbivore (plant eating) or omnivore (meat and plant eating)
2. The instructor will then ask the students to identify the skulls of various animals. The instructor will help the students locate specific parts of the skulls that will assist the students in determining if the animal is predator or prey, male or female.
3. After all animals' skins and skulls have been presented the instructor will display photos of some of the animals to further enhance the concepts of predator and prey.

Adapt to Classroom use: Set up centers similar to the above three steps in the classroom for students to discover the adaptations of animals on the tallgrass prairie. (Some items may be borrowed from the Nebraska Game and Parks Commission.)

An Exploring Experience: Have students research an animal from the tallgrass prairie ecosystem and report to the class their findings. Have them include life spans, diet, habitat, offspring and other characteristics.